



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,625	09/28/2006	Masaru Nakamura	296944US2PCT	5244
22850	7590	02/04/2009		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER				
GRUBB, MATTHEW				
ART UNIT		PAPER NUMBER		
4126				
NOTIFICATION DATE		DELIVERY MODE		
02/04/2009		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com

oblonpat@oblon.com

jgardner@oblon.com

Office Action Summary

Application No.

10/594,625

Applicant(s)

NAKAMURA, MASARU

Examiner

MATTHEW GRUBB

Art Unit

4126

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2006.
2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☐ Claim(s) _____ is/are rejected.
7) ☒ Claim(s) 1-7 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 9/28/06 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/CI/CDC)
Paper No(s)/Mail Date 12/28/06, 12/10/08
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Drawings

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Figure 9, References 41a, 41b, 41d, 41e, **105A, 105E** could not be found in the description [emphasis added, examiner notices that references 105A and 105E are mentioned in a descriptive bubble in Figure 9 as "SWITCHES," but 105A and 105E can not be found anywhere else in the drawing or the specification. **Perhaps applicant meant that to use "41b" and "41e" instead of "105A" and "105E"**]. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each

drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claims 1-7 are objected to because of the following informalities.

3. Independent Claim 1 is unclear because it is lacking antecedent basis, Dependent Claims 5 and 6 are objected to based on their dependency to an objected Claim. Applicant recites "a control circuit configured to control **the** ON-period of a pulse signal," perhaps applicant meant to use "**an**" instead of "**the**" (see p. 27, line 16). Further is noted that similar recitations are made throughout the claim. Applicant recites "a resulting feedback voltage provided by **the** feedback voltage superpose circuit," perhaps applicant meant to use "**an**" instead of "**the**" (see p. 28, lines 3-4). Note that Dependent Claim 5 includes the term "the feedback voltage superpose circuit."

4. Independent Claim 2 is unclear because it is lacking antecedent basis, Dependent Claim 6 is objected to based on its dependency to an objected Claim. Applicant recites "a control circuit configured to control **the** ON-period of a pulse signal," perhaps applicant meant to use "**an**" instead of "**the**" (see p. 28, line 22). Further is noted that similar recitations are made throughout the claim.

5. Independent Claim 3 is unclear because it is lacking antecedent basis, Dependent Claim 7 is objected to based on its dependency to an objected Claim. Applicant recites "a control circuit configured to control **the** ON-period of a pulse signal," perhaps applicant meant to use "**an**" instead of "**the**" (see p. 30, line 5). Further is noted that similar recitations are made throughout the claim.

6. Independent Claim 4 is unclear because it is lacking antecedent basis. Applicant recites "a control circuit configured to control **the** ON-period of a pulse signal," perhaps applicant meant to use "**an**" instead of "**the**" (see p. 31, line 17). Further is noted that similar recitations are made throughout the claim. Applicant recites "a resulting feedback voltage provided by **the** feedback voltage superpose circuit," perhaps applicant meant to use "**an**" instead of "**the**" (see p. 32, lines 12-13).

Independent Claim 4 is unclear. Applicant recites (see p.31, lines 25-30):

A constant-current drooping control circuit configured to switch a first constant current to second and third constant currents that are each smaller than the first constant current, or in the other way according to an overcurrent detection result from the overcurrent detection circuit and to carry out the constant-current dropping control.

Changing the phraseology as below would make the claim clear:

A constant-current drooping control circuit configured to switch **between** a first constant current **and** second and third constant currents that are each smaller than the first constant current according to an overcurrent detection result from the overcurrent detection circuit and to carry out the constant-current dropping control.

7. Dependent Claim 7 is unclear. It appears that Dependent Claim 7 was intended to be dependent on Independent Claim 4 instead of Independent Claim 3 (as recited). Multiple antecedent basis problems exist if Claim 7 is intended to be dependent on Claim 3.

Appropriate correction is required.

Allowable Subject Matter

The following is a statement of reasons for the indication of allowable subject matter. Claims 1-7 would be allowable if rewritten or amended to overcome the objection(s) set forth in this Office action.

8. Independent Claim 1 would be allowable because the prior art of record fails to teach or fairly suggest, a switching power source, or means for, comprising:
A constant-current drooping control circuit configured to select one of a first constant current and a second constant current smaller than the first constant current according to an overcurrent detection result from the overcurrent detection circuit and to superpose the selected current on the feedback voltage from the output detection circuit, wherein the control circuit controls the ON-period of the pulse signal supplied to the switching element according to a resultant feedback voltage provided by the feedback voltage superpose circuit;
in combination with the other recited limitations in the claim. Claims 5 and 6 would be allowable because of their dependency on Claim 1.

9. Independent Claim 2 would be allowable because the prior art of record fails to teach or fairly suggest, a switching power source, or means for, comprising:

A constant-current drooping control circuit configured to select one of a first constant current and a second constant current smaller than the first constant current according to an overcurrent detection result from the overcurrent detection circuit, output the selected current, and carry out constant-current drooping control;

in combination with the other recited limitations in the claim. Claim 6 would be allowable because of its dependency on Claim 2.

10. Independent Claim 3 would be allowable because the prior art of record fails to teach or fairly suggest, a switching power source, or means for, comprising:

A constant-current drooping control circuit configured to switch a first constant and a second constant current smaller than the first constant current from one to another according to an overload detection result from the feedback voltage detection circuit and to carry out constant-current drooping control;

in combination with the other recited limitations in the claim.

11. Independent Claim 4 would be allowable because the prior art of record fails to teach or fairly suggest, a switching power source, or means for, comprising:

A constant-current drooping control circuit configured to switch between a first constant current and second and third constant currents that are each smaller than the first constant current according to an overcurrent detection result from the overcurrent detection circuit and to carry out the constant-current drooping control [emphasis added, see Claim Objection above];

in combination with the other recited limitations in the claim. **Claim 7 would be allowable because of its dependency on Claim 4** [emphasis added, see Claim Objection above].

Conclusion

12. This application is in condition for allowance except for the following formal matters: see Claim Objections above.

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Hashimoto et al; JP 09-074748: Hashimoto et al which teaches a similar switching power supply device, but does not teach that two constant currents will be superposed on a feedback voltage.
- Mori; 6,879,501: Mori teaches a similar switching power supply, but does not teach that two constant currents will be superposed on a feedback voltage.
- Konno; 6,975,521: Konno teaches a similar switching power supply, but does not teach that two constant currents will be superposed on a feedback voltage.

14. Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 25 USPQ 74, 453 O.G. 213, (Comm'r Pat. 1935).

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW GRUBB whose telephone number is (571)270-5710. The examiner can normally be reached on Monday-Thursday 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TU NGUYEN can be reached on 571-272-2424. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. G./
Examiner, Art Unit 4126

/James P. Hughes/
Primary Examiner, Art Unit 2883